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? WHY THE WEATHER ?

Dr. Charles F. Brooks,
Secretary, American Meteorological Society.
says:

AUTUMN DEWS ARE HEAVY.

As summer wanes and autumn sets in, and the days get shorter and the nights longer, we have heavy, soaking dews whenever the skies are clear and the air still. Under particularly favorable conditions we may get the equivalent of over 0.01 inch of rain in a single night. Normally in midsummer the formation of dew is moderate, though in some regions, notably near the coast of southern California, it is uniformly heaving in the warm, dry months and occurs almost nightly, because the sky then is almost invariably clear at night and there is little wind in the hours of darkness. There dew serves to an important extent to replace the rain that rarely falls. The lima beans of Oxnard and the navy beans of San Luis Obispo are practically raised on this dew.

As the nights get longer the ground begins earlier to cool by radiation and conduction. The contrasts between day and night temperatures are greater. Dew begins to form as tiny droplets when the ground and objects on it have lost so much of their heat that their surface temperatures fall below the dewpoint of the air in contact with them, which is to say, the temperature at which the moisture of the air condenses as water. Some substances give up their heat by radiation much more rapidly than others. Even between the foliage of different plants there is a wide variation in this respect. Grass, which is kept by evaporation from becoming hot by day, and which has little mass in comparison with its surface, falls to the dewpoint very shortly after the sun ceases to shine on it, in shady spots even some hours before sunset. A dark colored stone, on the other hand, which has become very warm and has absorbed so much heat that it requires hours to cool to the dewpoint, may remain perfectly dry throughout the night. The air of an autumn night, however, is often humid, and has much vapor to give up; so this in combination with the considerable cooling causes heavy dews to form on all objects.

(Tomorrow: Cirrus spokes)

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